

# Nebraska Public Power District

COOPER NUCLEAR STATION  
P.O. BOX 98, BROWNVILLE, NEBRASKA 68321  
TELEPHONE (402) 825-3811

CNSS790639

December 7, 1979

Mr. K. V. Seyfrit  
U.S. Nuclear Regulatory Commission  
Office of Inspection and Enforcement  
Region IV  
611 Ryan Plaza  
Suite 1000  
Arlington, Texas 76011

Dear Sir:

This report is submitted in accordance with Section 6.7.2.B.2 of the Technical Specifications for Cooper Nuclear Station and discusses a reportable occurrence that was discovered on November 9, 1979. A licensee event report form is also enclosed.

Report No.: 50-298-79-35  
Report Date: December 7, 1979  
Occurrence Date: November 9, 1979  
Facility: Cooper Nuclear Station  
Brownville, Nebraska 68321

#### Identification of Occurrence:

A condition which may have led to operation in a degraded mode permitted by the limiting condition for operation in Section 3.5.A.1.(2) of the Technical Specifications.

#### Conditions Prior to Occurrence:

The reactor was at a steady state power of approximately 96% of rated thermal power.

#### Description of Occurrence:

During routine surveillance testing, a Core Spray (CS) valve (CS-MO-12A) failed to open by remote switch.

#### Designation of Apparent Cause of Occurrence:

The apparent cause of this occurrence has been attributed to axial movement of the worm set clutch collar thus damaging the clutch fingers and disallowing the full engagement required for electrical operation of the valve.

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Analysis of Occurrence:

The CS Systems (A & B) are low pressure emergency core cooling systems. Each CS injection line has two valves, one normally closed (CS-MO-12) and one normally open (CS-MO-11). Both valves receive "open" signals during a CS system initiation. The CS-MO-12A valve operator is a Limitorque type SMB-2, with an AC motor operator.

During disassembly of the Limitorque operator, metal particles and a nylon pin were found in the grease. The clutch fingers on the worm set clutch gear, worm set clutch, and handwheel clutch pinion were damaged. The four retaining setscrews in the worm set clutch collar were missing and this allowed axial movement. The loose nylon pin found in the grease verifies that the worm set clutch collar had significant axial movement.

At the time of the occurrence, the redundant valve, CS-MO-11A, was closed. CS-MO-12A was opened by handwheel operation and tagged open. The "A" loop of the CS system remained available and operable. The "B" loop of CS and the redundant system, Low Pressure Coolant Injection, were operable during this event.

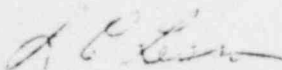
This occurrence presented no adverse consequences to the public health and safety.

Corrective Action:

The damaged parts were replaced with identical replacements and the setscrews in the worm set clutch collar were verified in place and staked.

A review of the equipment history indicated that this valve operator had not been disassembled by station personnel. Maintenance has been performed on numerous identical valve operators and in only one other instance have the four subject setscrews been missing (Reference LER 79-07). Future maintenance on the subject valve operators will insure proper installation of the setscrews.

Sincerely,

  
L. C. Lessor  
Station Superintendent  
Cooper Nuclear Station

LCL:cg  
Attach.

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